

Table 3-1

**Sampling Locations and Rationale
Former Smoke Area BVZ, Parcel 124(7)
Fort McClellan, Calhoun County, Alabama**

Sample Designation	Media Sampled	Sample Location Rationale
FTA-124-GP01	Surface Soil Subsurface Soil	Surface and subsurface soil samples were collected at the fog oil drum storage area (north end of the parcel). Sampling location represents a possible spill of fog oil with resulting deposition on the surface soil that could percolate into the subsurface soil or groundwater, or deposit dissolved materials after evaporation.
FTA-124-GP02	Surface Soil Subsurface Soil	Surface and subsurface soil samples were collected at the lowest elevation within the parcel. Sampling location represents the most likely point for collection, infiltration, and groundwater migration off the parcel.
FTA-124-SW/SD01	Surface Water Sediment	Surface water and sediment samples were collected from South Branch of Cane Creek, downslope (south) of the parcel. Sampling location represents a possible deposition area where percolation into the substratum, or movement towards Cane Creek could take place.
FTA-124-SW/SD02	Surface Water Sediment	Surface water and sediment samples were collected from South Branch of Cane Creek, a hydrologically downgradient location southwest of the parcel. Sampling location represents a possible deposition area where percolation into the substratum, or movement towards Cane Creek could take place.
FTA-124-SW/SD03	Surface Water Sediment	Surface water and sediment samples were collected from South Branch of Cane Creek. Sampling location represents a hydrologically downgradient location northwest of the site and northwest of Rock Hollow Road.
FTA-124-DEP01	Depositional Soil	A depositional soil sample was collected from the toe of the steepest slope immediately downslope (west) of the site. Sampling location represents most likely deposition point for transport westward across the southern half of the site.
FTA-124-DEP02	Depositional Soil	A depositional soil sample was collected from the mouth of the dry valley (west) which cuts across the site. Sampling location represents a convergence point for nearly all surface runoff originating from the parcel.

Table 3-2

**Surface, Subsurface, and Depositional Soil Sample Designations and QA/QC Samples
Former Smoke Area BVZ, Parcel 124(7)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Depth (ft. bgs)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
FTA-124-GP01	FTA-124-GP01-SS-FU0001-REG FTA-124-GP01-DS-FU0002-REG	0-1 4-6			FTA-124-GP01-SS-FU0001-MS FTA-124-GP01-SS-FU0001-MSD	TCL VOCs, TCL SVOCs, TAL metals
FTA-124-GP02	FTA-124-GP02-SS-FU0003-REG FTA-124-GP02-DS-FU0006-REG	0-1 2-4	FTA-124-GP02-SS-FU0004-FD	FTA-124-GP02-SS-FU0005-FS		TCL VOCs, TCL SVOCs, TAL metals
FTA-124-DEP01	FTA-124-DEP01-DEP-FU0007-REG	0-1				TCL VOCs, TCL SVOCs, TAL metals
FTA-124-DEP02	FTA-124-DEP02-DEP-FU0008-REG	0-1				TCL VOCs, TCL SVOCs, TAL metals

FD - Field duplicate.

FS - Field split.

ft. bgs - Feet below ground surface.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Section 4.9.1.1 of the SAP (IT, 2000a). Surface and depositional soil samples were collected by first removing surface debris, such as rocks or vegetation, from the immediate sample area. The soil was then collected with the sampling device and screened with a photoionization detector (PID) in accordance with Section 4.7.1.1 of the SAP (IT, 2000a). Samples for volatile organic compound (VOC) analysis were collected directly from the sampler using three EnCore® samplers. The remaining portion of the sample was transferred to a clean stainless-steel bowl, homogenized, and placed in the appropriate sample containers. The samples were analyzed for the parameters listed in Table 3-2 using methods outlined in Section 3.4. Sample collection logs are included in Appendix A.

3.2.2 Subsurface Soil Sampling

Subsurface soil samples were collected from two soil borings at Former Smoke Area BVZ, Parcel 124(7), as shown on Figure 3-1. Subsurface soil sampling locations and rationale are presented in Table 3-1. Subsurface soil sample designations, depths, and QA/QC samples are listed in Table 3-2. Soil boring sampling locations were determined in the field by the on-site geologist based on UXO avoidance activities, sampling rationale, presence of surface structures, site topography, and buried and overhead utilities. IT contracted TEG, Inc., a direct-push technology subcontractor, to assist in subsurface soil sample collection.

Sample Collection. Subsurface soil samples were collected from soil borings at depths greater than 1 foot below ground surface (bgs) in the unsaturated zone. The soil borings were advanced and soil samples collected using the direct-push sampling procedures specified in Section 4.9.1.1 of the SAP (IT, 2000a). Sample collection logs are included in Appendix A. The samples were analyzed for the parameters listed in Table 3-2 using methods outlined in Section 3.4.

Subsurface soil samples were collected continuously until direct-push sampler refusal was encountered. Samples were field-screened using a PID in accordance with Section 4.7.1.1 of the SAP (IT, 2000a) to measure for volatile organic vapors. The soil sample displaying the highest reading was selected and sent to the laboratory for analysis; however, at those locations where PID readings were not greater than background, the deepest soil sample interval above the saturated zone was submitted for analysis. Samples to be analyzed for VOCs were collected directly from the sampler using three EnCore® samplers. The remaining portion of the sample was transferred to a clean stainless-steel bowl, homogenized, and placed in the appropriate sample containers. Samples submitted for laboratory analysis are summarized in Table 3-2. The

on-site geologist constructed a detailed boring log for each soil boring. The lithological log for each borehole is included in Appendix B.

At the completion of soil sampling, boreholes were abandoned with bentonite pellets and hydrated with potable water following borehole abandonment procedures summarized in Appendix B of the SAP (IT, 2000a).

3.2.3 Surface Water Sampling

Three surface water samples were collected at Former Smoke Area BVZ, Parcel 124(7), at the locations shown on Figure 3-1. The surface water sampling locations and rationale are listed in Table 3-1. Surface water sample designations and QA/QC samples are listed in Table 3-3. The sampling locations were determined in the field, based on drainage pathways and actual field observations.

Sample Collection. Surface water samples were collected in accordance with the procedures specified in Section 4.9.1.3 of the SAP (IT, 2000a). The surface water samples were collected by dipping a stainless-steel pitcher in the water and pouring the water into the sample containers or by dipping the sample containers in the water and allowing the water to fill the sample containers. Surface water samples were collected after field parameters had been measured using a calibrated water quality meter. Surface water field parameters are listed in Table 3-4. Sample collection logs are included in Appendix A. The samples were analyzed for the parameters listed in Table 3-3 using methods outlined in Section 3.4.

3.2.4 Sediment Sampling

Three sediment samples were collected at the same locations as the surface water samples presented in Section 3.2.3, as shown on Figure 3-1. Sediment sampling locations and rationale are presented in Table 3-1. The sediment sample designations are listed in Table 3-3. The actual sediment sampling locations were determined in the field, based on drainage pathways and actual field observations.

Sample Collection. Sediment samples were collected in accordance with the procedures specified in Section 4.9.1.2 of the SAP (IT, 2000a). Sediments were collected with a stainless-steel spoon and placed in a clean stainless-steel bowl. Samples for VOC analysis were then immediately collected from the stainless-steel bowl with three EnCore® samplers. The remaining portion of the sample was homogenized and placed in the appropriate sample containers. Sample

Table 3-3

**Surface Water and Sediment Sample Designations and QA/QC Samples
Former Smoke Area BVZ, Parcel 124(7)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Depth (ft. bgs)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
FTA-124-SW/SD01	FTA-124-SW/SD01-SW-FU2001-REG	NA	FTA-124-SW/SD01-SW-FU2002-FD	FTA-124-SW/SD01-SW-FU2003-FS		TCL VOCs, TCL SVOCs, TAL Metals
	FTA-124-SW/SD01-SD-FU1001-REG	0-0.5				TCL VOCs, TCL SVOCs, TAL Metals, TOC, Grain size
FTA-124-SW/SD02	FTA-124-SW/SD02-SW-FU2004-REG	NA			FTA-124-SW/SD02-SW-FU2004-MS FTA-124-SW/SD02-SW-FU2004-MSD	TCL VOCs, TCL SVOCs, TAL Metals
	FTA-124-SW/SD02-SD-FU1002-REG	0-1				TCL VOCs, TCL SVOCs, TAL Metals, TOC, Grain size
FTA-124-SW/SD03	FTA-124-SW/SD03-SW-FU2005-REG	NA				TCL VOCs, TCL SVOCs, TAL Metals
	FTA-124-SW/SD03-SD-FU1003-REG	0-1				TCL VOCs, TCL SVOCs, TAL Metals, TOC, Grain size

FD - Field duplicate.

FS - Field split.

ft. bgs - Feet below ground surface.

MS/MSD - Matrix spike/matrix spike duplicate.

NA - Not applicable.

QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

TOC - Total organic carbon.

VOC - Volatile organic compound.

Table 3-4

**Surface Water Field Parameters
Former Smoke Area BVZ, Parcel 124(7)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Date	Specific Conductivity (mS/cm)^a	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (°C)	Turbidity (NTUs)	pH (SU)
FTA-124-SW/SD01	11-Mar-99	0.033	7.50	NR	12.1	0.0	5.70
FTA-124-SW/SD02	11-Mar-99	0.029	8.93	NR	13.2	0.0	6.10
FTA-124-SW/SD03	11-Mar-99	0.041	8.60	NR	14.5	0.0	6.51

^aSpecific conductivity values standardized to millisiemens per centimeter.

°C - Degrees Celsius.

mg/L - Milligrams per liter.

mS/cm - Millisiemens per centimeter.

mV - Millivolts.

NR - Reading not recorded.

NTU - Nephelometric turbidity units.

ORP - Oxidation-reduction potential.

SU - Standard units.